

Task 59
FY 1993

FINAL PRODUCT MPPDC
Dragon Run/Piankatank Watershed
Management

DRAGON RUN WATERSHED MANAGEMENT PROGRAM

ANNUAL REPORT, 1994

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Overview

The Dragon Run Management Program is a special area management planning and implementation project designed to protect the natural resources within the ecosystem of the Dragon Run. The watershed of the Dragon Run consists of 153 square miles of area including portions of Essex, Gloucester, King and Queen, and Middlesex Counties. The stream is forty miles in length and is characterized by extensive non-tidal and tidal cypress swamp. The watershed is relatively undeveloped, with the majority of land uses being in agricultural or forestry activities. The unique and extensive swamp ecosystem coupled with the low intensity of development provide for an opportunity to proactively manage the resource to maintain the quality of the Dragon Run region.

This management program has begun the task of preserving the quality of the Dragon Run through activities in the following areas:

1. Dragon Run Steering Committee
2. Public Meetings/Information
3. Dragon Run Access
4. Land Use Data Analysis/Models
5. Water Quality Monitoring
6. Handbook of Current Programs

Each of these activities will be detailed in the remainder of this report.

Dragon Run Steering Committee

The Dragon Run Steering Committee (DRSC) has a ten-year history of interest in protecting the Dragon Run and preserving the traditional uses of the waterbody and land. In 1987 the Steering Committee adopted the Dragon Run Conservation District, modeled after a proposed conservation district in Middlesex County. The Conservation District was subsequently adopted by three of the four counties. In 1989 the DRSC was awarded a citation by the Virginia Citizens Planning Association for its citizen-based planning efforts. The DRSC continues this tradition of being a citizen/landowner-based organization striving to formulate effective and practical strategies to manage their Dragon Run resource.

In 1994 the Dragon Run Steering Committee was comprised of the following members:

Essex County

Larkin Hundley (deceased)
Bryan Taliaferro
F. L. Garrett, III
Dorothy Miller

HT/68
.V8
F23
1994

Gloucester County

Jimmy Morgan
Elizabeth DeHardit
Buddy Bland

King and Queen County

Russell Williams
Jean Barrow
Donnie Sears, Chairman

Middlesex County

George Northam, Jr.
Buddy Moore
Jerry Bray

The DRSC held ten monthly meetings (two months off) in 1994 and addressed a variety of issues.

The Steering Committee provided input on all aspects of the Dragon Run Watershed Management Program. Efforts and accomplishments by staff were presented to the Steering Committee for advice and direction. The following are the major efforts in which the DRSC has been involved:

Dragon Run Public Access--adopted
Water Quality Monitoring Program
Public Forum
Land Use Data
Handbook of Current Programs
By-laws Development

In addition, the Steering Committee has identified several issues of concern within the watershed. These issues may be included in the policy recommendations in the management plan under development:

Landfills in Watershed
Illegal Dumping of Solid Waste
Commercial Development
Farm Plans
Forest Harvest
Regional Authority
No Wake Zones/Motor Boating
Forest Fire Hazards
Drinking Water Issues
Fishery Management
Enforcement of Existing Rules
Hunt Club Involvement

Public Meetings/Information

One of the most important tasks of the Dragon Run Watershed Management Program is to involve the public in the decision making process at an early stage of development. The Dragon Run Steering Committee is the cornerstone of this approach, with landowners and boards of supervisors members. However, it is also important to provide information and opportunity for input to the public at large. In 1994 the effort of public outreach took the form of one public meeting, published and open DRSC meetings, and the water quality monitoring program.

The public meeting on the Dragon Run was held on April 13, 1994, at the Rappahannock Community College Lecture Auditorium. Approximately sixty participants were in attendance for the program entitled "Reflections on the Dragon" (see Attachment A).

Meeting notices are sent to all local and regional newspapers in advance of each DRSC meeting. The newspapers publish the notices as space permits. The papers include the Tidewater Review, Southside Sentinel, Gazette-Journal, Rappahannock Times, Daily Press, and Richmond Times-Dispatch. DRSC meetings usually attract one to five interested citizens (in addition to DRSC members) who are welcome to participate in the agenda discussion.

The water quality monitoring program start-up was advertised widely and requested interested citizens to become involved (more on this program below).

An additional public information activity will be the published availability of this annual report.

Dragon Run Access

Access to the Dragon Run Stream and lands have long been a topic of discussion and controversy among landowners and recreationists. The draft of the Dragon Run Access Plan was completed in 1993; however, the text went through several revisions prior to adoption of the plan by the Middle Peninsula Planning District Commission in July, 1994.

The Access Plan emphasizes management of access activities by landowners and localities. Recognizing the wild and natural environment of the Dragon Run, limited and accountable access is recommended.

The Middle Peninsula Planning District Commission staff has also consulted with the Friends of the Dragon Run in their effort to purchase property at the New Dragon Bridge for conservation and access purposes. This effort is still in progress as of this writing.

Land Use Data Analysis/Models

The technical aspects of developing a watershed management program include an analysis of the existing conditions and projections of future conditions. The 1994 year saw the acquisition of land use/land cover data from Landsat and SPOT remote sensing satellites and additional hardware to store and manipulate the images. The Virginia Department of Environmental Quality's ECOMAPS program and the Department of Planning and Budget's Virginia Geographic Information Network (VGIN) office were instrumental in acquiring Landsat and SPOT images for use by the Middle Peninsula Planning District Commission. In addition, the Environmental Protection Agency's (EPA) Chesapeake Bay Program provided Landsat imagery and the Chesapeake Bay Watershed Model documentation.

The following images were acquired during 1994:

1988 Landsat 30 m multispectral land use/cover classified NOAA
1991 Landsat 28.5 m multispectral land use/cover classified
EPA
1994 SPOT 10 m panchromatic

The following land use/land cover analysis of the Dragon Run Watershed was completed using the 1988 Landsat image:

Dragon Run Land Use Classification--1988 LANDSAT

	<u># Cells</u>	<u>Acres</u>	<u>Sq. Miles</u>	<u>%</u>
1 Developed--High Intensity	443	98.5	.1500	-
2 Developed--Low Intensity	2,248	500.0	.7800	0.5
3 Cropland	50,617	11,257.0	17.6000	12.0
4 Grassland	59,448	13,235.0	20.7000	14.0
5 Deciduous Forest	119,545	26,615.0	41.6000	27.0
6 Coniferous Forest	81,566	18,160.0	28.4000	19.0
7 Mixed Forest	74,352	16,554.0	25.9000	17.0
8 Scrub/Shrub	12,682	2,823.0	4.4000	3.0
9 Palustrine Forest	33,247	7,402.0	11.6000	8.0
10 Estuarine Emergent	3,450	768.0	1.2000	0.8
11 Palustrine Emergent	2	0.4	0.0007	-
12 Tidal Flats	x	-	-	-
13 Exposed Land	x	-	-	-
14 Water	2,542	566.0	0.9000	0.6
Total	440,142	97,992.0	153.0000	100.0

Combined Classifications

Developed	0.5%
Farmland	26.0%
Upland Forest	63.0%
Wetlands/Water	12.0%

Water Quality Monitoring

In early 1994, local newspapers published a call for volunteer water quality monitors at the request of the Dragon Run Watershed Management Program. Initial response was good, and ultimately eleven citizen monitors and backup monitors were trained under the protocol of the Alliance for the Chesapeake Bay Citizen Monitoring Program. With the assistance of staff from the Alliance for the Chesapeake Bay, six water quality monitoring sites were established. Weekly monitoring began at most sites in April, 1994. All but two of the sites have had continuity in the weekly sampling protocol. Attachment B shows a map of the sites dispersed geographically throughout the watershed.

The water quality parameters measured at all sites include air and water temperature, dissolved oxygen, pH, secchi depth, and observations. In addition, at three sites, ammonia nitrate is measured on a monthly basis.

Handbook of Current Programs

One effort suggested by the DRSC was the formulation of a watershed handbook for use by the Steering Committee, local governments, and citizens which would outline the existing regulations and programs in effect at the local, state, and federal levels. The goal of this effort is to identify means of enforcement of existing requirements and avoid duplicity in future efforts.

A draft of the handbook is expected in early 1995.

Continuing Efforts

The Middle Peninsula Planning District Commission will continue the Dragon Run Watershed Management Program development throughout the coming year. The above efforts will be continued, and activity in watershed modelling and policy development will intensify.

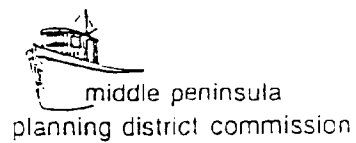
ATTACHMENT A

Reflections on the Dragon



A Program on the Past, Present, and Future of the Dragon Run

Wednesday, April 13, 1994 7PM
Lecture Hall, Rappahannock Community College, Glens
Public Invited



PROGRAM

- 7:00 Welcome--Donnie Sears, Chairman, DRSC
- 7:05 Slide Show--Courtesy of Jimmy Morgan *
- 7:20 Personal Reflections--Louise Eubank Gray
- 7:40 The DRSC-Watershed Managemnt--Jim Uzel
- 8:00 Comments and Questions

The Dragon Run

The Dragon Run is a forty-mile stream characterized by extensive non-tidal and tidal cypress swamp traversing the Counties of Essex, Gloucester, King and Queen, and Middlesex. Wetlands comprise 10% of the 150 square miles within the watershed. The cypress stand here is the largest in the species' northernmost range. This and other ecological features have earned the Dragon the title of Virginia's most pristine tributary to the Chesapeake Bay. While the watershed is largely undeveloped, recent development proposals may site new commercial and residential projects within the area.

The Dragon Run Steering Committee

The Middle Peninsula Planning District Commission (MPPDC) has a long history in coordinating local efforts to proactively manage the Dragon Run. The MPPDC Board formed the Dragon Run Steering Committee (DRSC) in 1984. A public education campaign led to the adoption of the Dragon Run Conservation District in 1988. The Conservation District provides wetlands protection and buffering up to 150 feet and was implemented three years prior to the State mandated Chesapeake Bay Preservation Act.

In 1993, the Steering Committee completed work on the Dragon Run Access Plan which stresses the need for managed access and provides mechanisms for achieving that goal.

The DRSC is comprised of three members from each of the four counties bordering the Dragon. Of the three in each county's contingent, two are landowners adjoining the Dragon and one is a board of supervisors member. Technical advisors assist the group on issues of mutual interest.

The DRSC considers policy development for implementation by the Planning District Commission or local governments. The present watershed management plan is an effort in which local governments and the public will be involved.

Watershed Management Planning

A plan for the Dragon Run will provide for management of coastal development so as to protect, restore, and improve water quality, natural resources, and existing uses of the waters. In addition, protection of the extensive wetland features and management to avoid improper development in hazard-prone areas will minimize loss of life and property. Management of coastal development will be accomplished through a coordinated effort of public participation and education, local government policy formation, and regional and state liaison activities.

This program will provide for protection of the natural resources within the watershed, including wetlands, floodplains, estuaries, and wildlife and their habitat. This will be accomplished by conducting an extensive land use inventory and non-point pollution modeling study.

Program implementation will be achieved through local land use plans and ordinances and will provide a model for statewide utilization.

For more information, call Jim Uzel, Environmental Programs Coordinator at 758-2311.

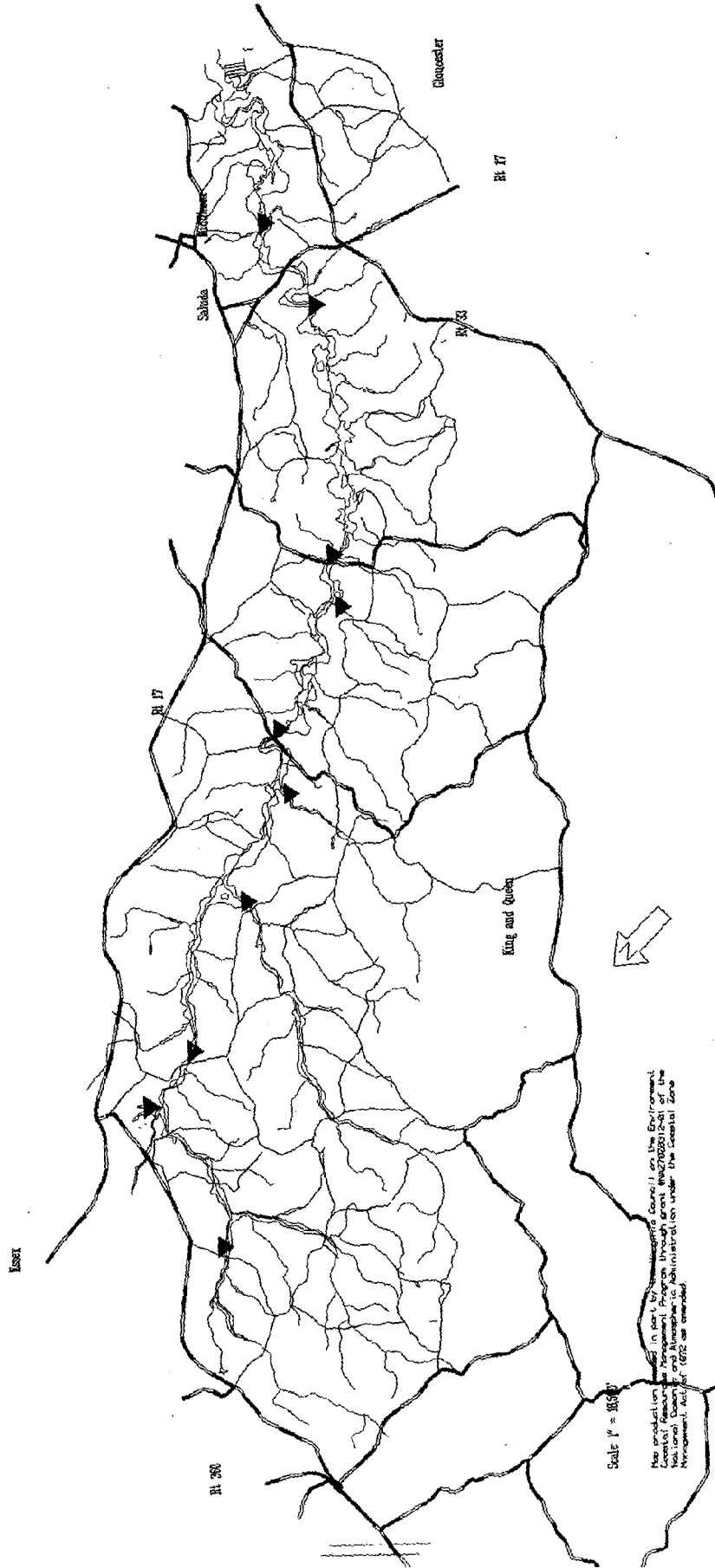
* Music Selections from the Al Petteway album, The Waters and The Wild. Used with permission and available from Maggie's Music (410) 268-3394.

This program funded in part, by the Department of Environmental Quality's Coastal Resources Management Program through Grant # NA37020360-01 of the National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource management, under the Coastal Zone Management Act of 1972, as amended.

ATTACHMENT B

Dragon Run Watershed

Data Source: USGS Digital Line Graph



Map produced in part by the Middle Peninsula Planning District Commission, 1984. Although this database has been used by the Middle Peninsula Planning District Commission (MPPDC) and is currently the best available, it does not constitute a warranty of accuracy or reliability. The text of this document constitutes any such warranty, and no responsibility is assumed by the MPPDC in connection therewith.

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